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CLAIMS

1. (currently amended) A method for synchronizing a route change in a routing table for with a plurality of multicast routing protocols in a network device in a communication network device, the method comprising:

assigning a route ID value to each route in the routing table;

assigning a bookmark in a route change queue to each multicast routing protocol, the bookmark having a value equivalent to the route ID value of the last route processed by the multicast routing protocol, wherein the route change queue is separate from the routing table, and wherein the route change queue is shared across the plurality of multicast routing protocols;

assigning a new route ID value to each route changed in the routing table;

independently storing each route changed in both the routing table and the route change queue; and

comparing the bookmark value of each multicast routing protocol to the highest route ID value in the route change queue.

2. (original) A method according to claim 1, wherein the route change is the addition of a new route to the routing table.

3. (original) A method according to claim 1, wherein the route change is the deletion of a route from the routing table.

4. (original) A method according to claim 1, wherein the route change is updating a route in the routing table.

5. (original) A method according to claim 1, further including processing routes in the route change queue with route ID values greater than the bookmark value of the multicast routing protocol.

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6. (currently amended) A method according to claim 1, wherein each route changed comprises a  
A route entry for a route in the a routing table for the a plurality of multicast routing protocols,  
the route entry comprising:

- an address for the route source network;
- an address for the next hop of the route;
- an address for the next hop interface of the route;
- a route state value for indicating the current state of the route;
- a routing protocol identifier for identifying the routing protocol associated with the route;

and

the new a route ID value, wherein the new route ID value is further for determining when  
the route entry has been processed by each of the plurality of multicast routing protocols.

7. (currently amended) A computer program product for use on a computer system for  
synchronizing a route change in a routing table with a plurality of multicast routing protocols in a  
network device in a communication network, the computer program product comprising a  
computer useable medium having a computer readable program code thereon, the computer  
readable program code including:

program code for assigning a route ID value to each route in the routing table;

program code for assigning a bookmark in a route change queue to each multicast routing  
protocol, the bookmark having a value equivalent to the route ID value of the last route processed  
by the multicast routing protocol, wherein the route change queue is separate from the routing  
table, and wherein the route change queue is shared across the plurality of multicast routing  
protocols;

program code for assigning a new route ID value to each route changed in the routing  
table;

program code for independently storing each route changed in both the routing table and  
the route change queue; and

program code for comparing the bookmark value of each multicast routing protocol to the  
highest route ID value in the route change queue.

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8. (original) A computer program product according to claim 7, wherein the route change is the addition of a new route to the routing table.

9. (original) A computer program product according to claim 7, wherein the route change is the deletion of a route from the routing table.

10. (original) A computer program product according to claim 7, wherein the route change is updating a route in the routing table.

11. (original) A computer program product according to claim 7, further including program code for processing routes in the route change queue with route ID values greater than the bookmark value of the multicast routing protocol.